



AmeltB

SEQUENCE LISTING

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Ryu, Eun-Hyun
Hwang, Moon-Sun

<120> ZINC FINGER DOMAINS AND METHODS OF
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<140> 09/785,632

<141> 2001-02-16

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<400> 13
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<400> 17
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 Lys Glu Gly Gly Ser Thr Phe Arg Thr Gly Gln Glu Arg Pro
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42

<210> 19

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> plasmid sequence

<400> 19

Lys Glu Gly Gly Ser Thr Phe Arg Thr Gly Gln Glu Arg Pro
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<212> DNA

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<221> CDS

<222> (25)...(291)

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 Glu Arg Pro Tyr Ala Cys Pro Val Glu
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51

tcc tgc gat cgc cgc ttt tct cgc tcg gat gag ctt acc cgc cat atc
 Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Glu Leu Thr Arg His Ile
 10 15 20 25

99

cgc atc cac act ggc cag aag ccc ttc cag tgt cga atc tgc atg cgt
 Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
 30 35 40

147

aac ttc agt cgt agt gac cac ctt acc acc cac atc cgg acc cac acc
 Asn Phe Ser Arg Ser Asp His Leu Thr Thr His Ile Arg Thr His Thr
 45 50 55

195

ggc gag aag cct ttt gcc tgt gac att tgt ggg agg aag ttt gcc agg
 Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg
 60 65 70

243

agt gat gaa cgc aag agg cat acc aaa atc cat tta aga cag aag gat
 Ser Asp Glu Arg Lys Arg His Thr Lys Ile His Leu Arg Gln Lys Asp
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291

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 Arg Ser Asp Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys
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 Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His
 35 40 45
 Leu Thr Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
 50 55 60
 Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His
 65 70 75 80
 Thr Lys Ile His Leu Arg Gln Lys Asp
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 <213> Homo sapiens

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 Arg Arg His Gly Arg Thr His
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 <211> 69
 <212> DNA
 <213> Homo sapiens

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 agaatccac 69

<210> 25
 <211> 23
 <212> PRT
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<400> 25

Tyr Lys Cys Lys Glu Cys Gly Lys Ala Phe Asn His Ser Ser Asn Phe
 1 5 10 15
 Asn Lys His His Arg Ile His
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<210> 26

<211> 69

<212> DNA

<213> Homo sapiens

<400> 26

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 agaattcac 69

<210> 27

<211> 23

<212> PRT

<213> Homo sapiens

<400> 27

Tyr Glu Cys Lys Glu Cys Gly Lys Ala Phe Ser Ser Gly Ser Asn Phe
 1 5 10 15
 Thr Arg His Gln Arg Ile His
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<210> 28

<211> 75

<212> DNA

<213> Homo sapiens

<400> 28

tatgtatgcg atgtagaggg atgtacgtgg aaatttgccc gctcagatga gctcaacaga 60
 cacaagaaaa ggcac 75

<210> 29

<211> 25

<212> PRT

<213> Homo sapiens

<400> 29

Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys Phe Ala Arg Ser Asp
 1 5 10 15
 Glu Leu Asn Arg His Lys Lys Arg His
 20 25

<210> 30

<211> 69

<212> DNA

<213> Homo sapiens

<400> 30

tatgagtgtg atgaatgcgg gaaagctttt gcccaaaatt caactctcag agtacaccag 60
 agaattcac 69

<210> 31

<211> 23

<212> PRT
 <213> Homo sapiens

<400> 31
 Tyr Glu Cys Asn Glu Cys Gly Lys Ala Phe Ala Gln Asn Ser Thr Leu
 1 5 10 15
 Arg Val His Gln Arg Ile His
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<210> 32
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 agaatccac 69

<210> 33
 <211> 23
 <212> PRT
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<400> 33
 Tyr Glu Cys Asn Tyr Cys Gly Lys Thr Phe Ser Val Ser Ser Thr Leu
 1 5 10 15
 Ile Arg His Gln Arg Ile His
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 <211> 69
 <212> DNA
 <213> Homo sapiens

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 <222> (1)...(69)

<400> 34
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 1 5 10 15

cac agg cac cag aga acg cac 69
 His Arg His Gln Arg Thr His
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 <211> 23
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<400> 35
 Tyr Gln Cys Asn Ile Cys Gly Lys Cys Phe Ser Cys Asn Ser Asn Leu
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<400> 36
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 Tyr Ala Cys His Leu Cys Gly Lys Ala Phe Thr Gln Ser Ser His Leu
 1 5 10 15

aga aga cat gag aaa act cac 69
 Arg Arg His Glu Lys Thr His
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<210> 37
 <211> 23
 <212> PRT
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<400> 37
 Tyr Ala Cys His Leu Cys Gly Lys Ala Phe Thr Gln Ser Ser His Leu
 1 5 10 15
 Arg Arg His Glu Lys Thr His
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<210> 38
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<220>
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 Tyr Lys Cys Gly Gln Cys Gly Lys Phe Tyr Ser Gln Val Ser His Leu
 1 5 10 15

acc cgc cac cag aaa atc cac 69
 Thr Arg His Gln Lys Ile His
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<210> 39
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<400> 39
 Tyr Lys Cys Gly Gln Cys Gly Lys Phe Tyr Ser Gln Val Ser His Leu
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 Thr Arg His Gln Lys Ile His

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 Tyr Ala Cys His Leu Cys Gly Lys Ala Phe Thr Gln Cys Ser His Leu
 1 5 10 15
 aga aga cat gag aaa act cac 69
 Arg Arg His Glu Lys Thr His
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<210> 41
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 1 5 10 15
 Arg Arg His Glu Lys Thr His
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 Tyr Ala Cys His Leu Cys Ala Lys Ala Phe Ile Gln Cys Ser His Leu
 1 5 10 15
 aga aga cat gag aaa act cac 69
 Arg Arg His Glu Lys Thr His
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<210> 43
 <211> 23
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<400> 43
 Tyr Ala Cys His Leu Cys Ala Lys Ala Phe Ile Gln Cys Ser His Leu
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Arg Arg His Glu Lys Thr His
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1 5 10 15

gtc aga cac aag agg aca cat 69
Val Arg His Lys Arg Thr His
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<210> 45
<211> 23
<212> PRT
<213> Homo sapiens

<400> 45
Tyr Val Cys Arg Glu Cys Gly Arg Gly Phe Arg Gln His Ser His Leu
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Val Arg His Lys Arg Thr His
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<210> 46
<211> 69
<212> DNA
<213> Homo sapiens

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<222> (1)...(69)

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1 5 10 15

atc aga cac cag aga act cac 69
Ile Arg His Gln Arg Thr His
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<210> 47
<211> 23
<212> PRT
<213> Homo sapiens

<400> 47
Phe Glu Cys Lys Asp Cys Gly Lys Ala Phe Ile Gln Lys Ser Asn Leu

1 5 10 15
 Ile Arg His Gln Arg Thr His
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<210> 48
 <211> 69
 <212> DNA
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<220>
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 Tyr Val Cys Arg Glu Cys Arg Arg Gly Phe Ser Gln Lys Ser Asn Leu
 1 5 10 15

atc aga cac cag agg acg cac 69
 Ile Arg His Gln Arg Thr His
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<210> 49
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 49
 Tyr Val Cys Arg Glu Cys Arg Arg Gly Phe Ser Gln Lys Ser Asn Leu
 1 5 10 15
 Ile Arg His Gln Arg Thr His
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<210> 50
 <211> 69
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(69)

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 1 5 10 15

att gta cat cag aga aca cac 69
 Ile Val His Gln Arg Thr His
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<210> 51
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> -51-

Tyr Glu Cys Asn Thr Cys Arg Lys Thr Phe Ser Gln Lys Ser Asn Leu
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 Ile Val His Gln Arg Thr His
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<210> 52
 <211> 69
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 <213> Homo sapiens

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<400> 52
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 Tyr Val Cys Ser Lys Cys Gly Lys Ala Phe Thr Gln Ser Ser Asn Leu
 1 5 10 15

act gta cat caa aaa atc cac 69
 Thr Val His Gln Lys Ile His
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<210> 53
 <211> 23
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 <213> Homo sapiens

<400> 53
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 Thr Val His Gln Lys Ile His
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 Tyr Lys Cys Asp Glu Cys Gly Lys Asn Phe Thr Gln Ser Ser Asn Leu
 1 5 10 15

att gta cat aag aga att cat 69
 Ile Val His Lys Arg Ile His
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<210> 55
 <211> 23
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<400> 55

Tyr Lys Cys Asp Glu Cys Gly Lys Asn Phe Thr Gln Ser Ser Asn Leu
 1 5 10 15
 Ile Val His Lys Arg Ile His
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 Tyr Glu Cys Asp Val Cys Gly Lys Thr Phe Thr Gln Lys Ser Asn Leu
 1 5 10 15

ggt gta cat cag aga act cat 69
 Gly Val His Gln Arg Thr His
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<210> 57

<211> 23

<212> PRT

<213> Homo sapiens

<400> 57

Tyr Glu Cys Asp Val Cys Gly Lys Thr Phe Thr Gln Lys Ser Asn Leu
 1 5 10 15
 Gly Val His Gln Arg Thr His
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<210> 58

<211> 69

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<222> (1)...(69)

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 Tyr Lys Cys Pro Asp Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu
 1 5 10 15

att cgc cac cag cgg aca cac 69
 Ile Arg His Gln Arg Thr His
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<210> 59

<211> 23

<212> PRT

<213> Homo sapiens

<400> 59

Tyr Lys Cys Pro Asp Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu
 1 5 10 15
 Ile Arg His Gln Arg Thr His
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<210> 60

<211> 69

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(69)

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 1 5 10 15

ggg cgg cac aag agg aca cac 69
 Gly Arg His Lys Arg Thr His
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<210> 61

<211> 23

<212> PRT

<213> Homo sapiens

<400> 61

Tyr Glu Cys Gln Asp Cys Gly Arg Ala Phe Asn Gln Asn Ser Ser Leu
 1 5 10 15
 Gly Arg His Lys Arg Thr His
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<210> 62

<211> 69

<212> DNA

<213> Homo sapiens

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<221> CDS

<222> (1)...(69)

<400> 62

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 Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Asn Gln Ser Ser Thr Leu
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act aga cat aag ata gtt cat 69
 Thr Arg His Lys Ile Val His
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<210> 63

<211> 23

<212> PRT

<213> Homo sapiens

<400> 63

Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Asn Gln Ser Ser Thr Leu
 1 5 10 15
 Thr Arg His Lys Ile Val His
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<210> 64

<211> 69

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(69)

<400> 64

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 Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
 1 5 10 15

aca cgg cac cag cgg att cac 69
 Thr Arg His Gln Arg Ile His
 20

<210> 65

<211> 23

<212> PRT

<213> Homo sapiens

<400> 65

Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
 1 5 10 15
 Thr Arg His Gln Arg Ile His
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<210> 66

<211> 69

<212> DNA

<213> Homo sapiens

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<221> CDS

<222> (1)...(69)

<400> 66

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 1 5 10 15

cga aga cat gaa acc act cac 69
 Arg Arg His Glu Thr Thr His
 20

<210> 67

<211> 23

<212> PRT
 <213> Homo sapiens

<400> 67

Tyr	Thr	Cys	Lys	Gln	Cys	Gly	Lys	Ala	Phe	Ser	Val	Ser	Ser	Ser	Leu
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Arg	Arg	His	Glu	Thr	Thr	His									
			20												

<210> 68

<211> 28

<212> PRT

<213> Artificial Sequence

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<223> purified polypeptide

<221> VARIANT

<222> 1, 13

<223> Xaa = Phe or Tyr

<221> VARIANT

<222> 2, 4-8, 10-12, 14, 16, 20, 23-27

<223> Xaa = any amino acid

<221> VARIANT

<222> 19

<223> Xaa = hydrophobic residue

<400> 68

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Ser	Asn	Xaa	Xaa	Arg	His	Xaa	Xaa	Xaa	Xaa	Xaa	His				
			20					25							

<210> 69

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> purified polypeptide

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<223> Xaa = Phe or Tyr

<221> VARIANT

<222> 2, 4-8, 10-12, 14, 16, 20, 23-27

<223> Xaa = any amino acid

<221> VARIANT

<222> 19

<223> Xaa = hydrophobic residue

<400> 69

Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	His	Xaa
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1	5	10	15
Ser	Asn	Xaa	Xaa
	Lys	His	Xaa
	Xaa	Xaa	Xaa
		Xaa	Xaa
			His
	20	25	

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<220>
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 <223> Xaa = Phe or Tyr

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 <222> 2, 4-8, 10-12, 14, 16, 20, 23-27
 <223> Xaa = any amino acid

<221> VARIANT
 <222> 19
 <223> Xaa = hydrophobic residue

<400> 70
Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Ser Xaa
1 5 10 15
Ser Asn Xaa Xaa Arg His Xaa Xaa Xaa Xaa Xaa His
20 25

<210> 71
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<221> VARIANT
 <222> 2, 4-8, 10-12, 14, 16, 20, 23-27
 <223> Xaa = any amino acid

<221> VARIANT
 <222> 19
 <223> Xaa = hydrophobic residue

<400> 71
Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Gln Xaa
1 5 10 15
Ser Thr Xaa Xaa Val His Xaa Xaa Xaa Xaa Xaa His
20 25

<210> 72

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<221> VARIANT
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<221> VARIANT
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 <223> Xaa = Ser or Thr

<221> VARIANT
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 <223> Xaa = hydrophobic residue

<400> 72
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 1 5 10 15
 Ser Xaa Xaa Xaa Arg His Xaa Xaa Xaa Xaa Xaa His
 20 25

<210> 73
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<221> VARIANT
 <222> 2, 4-8, 10-12, 14, 16, 20, 23-27
 <223> Xaa = any amino acid

<221> VARIANT
 <222> 19
 <223> Xaa = hydrophobic residue

<400> 73
 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Gln Xaa
 1 5 10 15
 Ser His Xaa Xaa Arg His Xaa Xaa Xaa Xaa Xaa His
 20 25

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<221> VARIANT
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 <223> Xaa = any amino acid

<221> VARIANT
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 <223> Xaa = hydrophobic residue

<400> 74
 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Gln Xaa
 1 5 10 15
 Ser Asn Xaa Xaa Val His Xaa Xaa Xaa Xaa Xaa His
 20 25

<210> 75
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> purified polypeptide

<221> VARIANT
 <222> 1, 13
 <223> Xaa = Phe or Tyr

<221> VARIANT
 <222> 2, 4-8, 10-12, 14, 16, 20, 23-27
 <223> Xaa = any amino acid

<221> VARIANT
 <222> 18
 <223> Xaa = Ser or Thr

<221> VARIANT
 <222> 19
 <223> Xaa = hydrophobic residue

<400> 75
 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Gln Xaa
 1 5 10 15
 Ser Xaa Xaa Xaa Arg His Xaa Xaa Xaa Xaa Xaa His
 20 25

<210> 76
 <211> 28
 <212> PRT

<213> Artificial Sequence

<220>

<223> coordinating residue

<221> VARIANT

<222> 1, 13

<223> Xaa = Phe or Tyr

<221> VARIANT

<222> 2, 4-8, 10-12, 14-18, 20-21, 23-27

<223> Xaa = any amino acid

<221> VARIANT

<222> 19

<223> Xaa = hydrophobic residue

<400> 76

Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5				10						15		
Xaa	Xaa	Xaa	Xaa	Xaa	His	Xaa	Xaa	Xaa	Xaa	Xaa	His					
				20				25								

<210> 77

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> polypeptide motif

<221> VARIANT

<222> 1

<223> Xaa = Leu, Ile, Val, Met, Phe, Tyr, or Gly

<221> VARIANT

<222> 2

<223> Xaa = Ala, Ser, Leu, Val, or Arg

<221> VARIANT

<222> 3-4, 6, 8-11, 17, 19-23

<223> Xaa = any amino acid

<221> VARIANT

<222> 5

<223> Xaa = Leu, Ile, Val, Met, Ser, Thr, Ala, Cys, or Asn

<221> VARIANT

<222> 7

<223> Xaa = Leu, Ile, Val, or Met

<221> VARIANT

<222> 12

<223> Xaa = Leu, Ile, or Val

<221> VARIANT

<222> 13
 <223> Xaa = Arg, Lys, Asn, Gln, Glu, Ser, Thr, Ala, Ile,
 or Tyr

<221> VARIANT
 <222> 14
 <223> Xaa = Leu, Ile, Val, Phe, Ser, Thr, Asn, Lys, or
 His

<221> VARIANT
 <222> 16
 <223> Xaa = Phe, Tyr, Val, or Cys

<221> VARIANT
 <222> 18
 <223> Xaa = Asn, Asp, Gln, Thr, Ala, or His

<221> VARIANT
 <222> 24
 <223> Xaa = Arg, Lys, Asn, Ala, Ile, Met, or Trp

<400> 77
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Trp Xaa
 1 5 10 15
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 20

<210> 78
 <211> 6
 <212> PRT
 <213> Eukaryote

<220>
 <221> VARIANT
 <222> 3
 <223> Xaa = Glu or Gln

<221> VARIANT
 <222> 4
 <223> Xaa = Lys or Arg

<221> VARIANT
 <222> 6
 <223> Xaa = Tyr or Phe

<400> 78
 Thr Gly Xaa Xaa Pro Xaa
 1 5

<210> 79
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic oligonucleotide

<400> 79
 tgcctgcagc atttgtggga ggaagtttg

29

<210> 80
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic oligonucleotide

<400> 80
 atgctgcagg cttaaggctt ctcgccggtg

30

<210> 81
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer for PCR

<221> misc_feature
 <222> 11, 17, 20
 <223> n = A, T, G, or C

<400> 81
 gcgtccggac ncayacnggn sara

24

<210> 82
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer for PCR

<221> misc_feature
 <222> 10-11, 16
 <223> n = A, T, G, or C

<400> 82
 cggaattcan nbrwanggyy tytc

24

<210> 83
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> amino acid motif

<221> VARIANT
 <222> 4
 <223> Xaa = Glu or Gln

<221> VARIANT

<222> 5

<223> Xaa = Lys or Arg

<221> VARIANT

<222> 3

<223> Xaa = Tyr or Phe

<400> 83

His Thr Gly Xaa Xaa Pro Xaa

1

5

<210> 84

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<400> 84

gggcccgggg agaagcctta cgcattgtcca gtcgaatctt gtgatagaag attc

54

<210> 85

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<221> misc_feature

<222> 36, 39, 45, 48, 51, 54

<223> n = A, T, G, or C

<400> 85

ctccccgcgg ttgcgcggtg tggattctga tatgsnbsnb aagsnbsnbs nbsnbtgaga
atcttctatc acaag

60

75

<210> 86

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<400> 86

ctagaccgcg gaattcgtcg acg

23

<210> 87

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<400> 87
 gatccgtcga cgaattcccg ggt 23

<210> 88
 <211> 38
 <212> DNA
 <213> syArtificial Sequence

<220>
 <223> synthetic oligonucleotide

<221> misc_feature
 <222> 6-8, 18-20, 30-32
 <223> n = A, T, G, or C

<400> 88
 ccggtnnntg ggcgtacnnn tgggcgtcan nntgggcg 38

<210> 89
 <211> 38
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic oligonucleotide

<221> misc_feature
 <222> 11-13, 23-25, 35-37
 <223> n = A, T, G, or C

<400> 89
 tcgacgcca nnntgacgcc kannngtacg cccannna 38

<210> 90
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic probe for gel shift assay

<400> 90
 ccgggtcgcg cgtgggcggt accg 24

<210> 91
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic probe for gel shift assay

<400> 91
 tcgacggtag cgcccacgcg cgac 24

<210> 92
 <211> 24

<212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic probe for gel shift assay

<400> 92
 ccgggtcgcg agcgggcggt accg

24

<210> 93
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic probe for gel shift assay

<400> 93
 tcgacggtac cgcccgcctcg cgac

24

<210> 94
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic probe for gel shift assay

<400> 94
 ccgggtcgtg cttgggcggt accg

24

<210> 95
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic probe for gel shift assay

<400> 95
 tcgacggtac cgcccaagca cgac

24

<210> 96
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic probe for gel shift assay

<400> 96
 ccgggtcggg actgggcggt accg

24

<210> 97
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic probe for gel shift assay

<400> 97
 tcgacggtac cgcccagtcc cgac

24

<210> 98
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic probe for gel shift assay

<400> 98
 ccgggtcggg agtgggcggt accg

24

<210> 99
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic probe for gel shift assay

<400> 99
 tcgacggtac cgcccactcc cgac

24

<210> 100
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic probe for gel shift assay

<400> 100
 ccgggtcggg catgggcggt accg

24

<210> 101
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic probe for gel shift assay

<400> 101
 tcgacggtac cgcccatgtc cgac

24

<210> 102
 <211> 69
 <212> DNA
 <213> Homo sapiens

<220>

<221> CDS
 <222> (1)...(69)

<400> 102
 tat aag tgt aag gaa tgt ggg cag gcc ttt aga cag cgt gca cat ctt 48
 Tyr Lys Cys Lys Glu Cys Gly Gln Ala Phe Arg Gln Arg Ala His Leu
 1 5 10 15

att cga cat cac aaa ctt cac 69
 Ile Arg His His Lys Leu His
 20

<210> 103
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 103
 Tyr Lys Cys Lys Glu Cys Gly Gln Ala Phe Arg Gln Arg Ala His Leu
 1 5 10 15
 Ile Arg His His Lys Leu His
 20

<210> 104
 <211> 69
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(69)

<400> 104
 tat aag tgt cat caa tgt ggg aaa gcc ttt att caa tcc ttt aac ctt 48
 Tyr Lys Cys His Gln Cys Gly Lys Ala Phe Ile Gln Ser Phe Asn Leu
 1 5 10 15

cga aga cat gag aga act cac 69
 Arg Arg His Glu Arg Thr His
 20

<210> 105
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 105
 Tyr Lys Cys His Gln Cys Gly Lys Ala Phe Ile Gln Ser Phe Asn Leu
 1 5 10 15
 Arg Arg His Glu Arg Thr His
 20

<210> 106
 <211> 69
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(69)

<400> 106
 ttc cag tgt aat cag tgt ggg gca tct ttt act cag aaa ggt aac ctc 48
 Phe Gln Cys Asn Gln Cys Gly Ala Ser Phe Thr Gln Lys Gly Asn Leu
 1 5 10 15
 ctc cgc cac att aaa ctg cac 69
 Leu Arg His Ile Lys Leu His
 20

<210> 107
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 107
 Phe Gln Cys Asn Gln Cys Gly Ala Ser Phe Thr Gln Lys Gly Asn Leu
 1 5 10 15
 Leu Arg His Ile Lys Leu His
 20

<210> 108
 <211> 72
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer for PCR

<221> misc_feature
 <222> 22-72
 <223> n =A, T, G, or C

<400> 108
 acccacactg gccagaaacc cnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 60
 nnnnnnnnnnn nn 72

<210> 109
 <211> 66
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer for PCR

<221> misc_feature
 <222> 22-66
 <223> n = A, T, G, or C

<400> 109
 gatctgaatt cattcaccgg tnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 60
 nnnnnnn 66

<210> 110
 <211> 69
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(69)

<400> 110
 tac aaa tgt gaa gaa tgt ggc aaa gcc ttt agg cag tcc tca cac ctt 48
 Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Arg Gln Ser Ser His Leu
 1 5 10 15

act aca cat aag ata att cat 69
 Thr Thr His Lys Ile Ile His
 20

<210> 111
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 111
 Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Arg Gln Ser Ser His Leu
 1 5 10 15
 Thr Thr His Lys Ile Ile His
 20

<210> 112
 <211> 69
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(69)

<400> 112
 tat gag tgt gat cac tgt gga aaa tcc ttt agc cag agc tct cat ctg 48
 Tyr Glu Cys Asp His Cys Gly Lys Ser Phe Ser Gln Ser Ser His Leu
 1 5 10 15

aat gtg cac aaa aga act cac 69
 Asn Val His Lys Arg Thr His
 20

<210> 113
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 113
 Tyr Glu Cys Asp His Cys Gly Lys Ser Phe Ser Gln Ser Ser His Leu
 1 5 10 15
 Asn Val His Lys Arg Thr His
 20

<210> 114
 <211> 69
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(69)

<400> 114
 tac atg tgc agt gag tgt ggg cga ggc ttc agc cag aag tca aac ctc 48
 Tyr Met Cys Ser Glu Cys Gly Arg Gly Phe Ser Gln Lys Ser Asn Leu
 1 5 10 15

atc ata cac cag agg aca cac 69
 Ile Ile His Gln Arg Thr His
 20

<210> 115
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 115
 Tyr Met Cys Ser Glu Cys Gly Arg Gly Phe Ser Gln Lys Ser Asn Leu
 1 5 10 15
 Ile Ile His Gln Arg Thr His
 20

<210> 116
 <211> 69
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(69)

<400> 116
 tat gaa tgt gaa aaa tgt ggc aaa gct ttt aac cag tcc tca aat ctt 48
 Tyr Glu Cys Glu Lys Cys Gly Lys Ala Phe Asn Gln Ser Ser Asn Leu
 1 5 10 15

act aga cat aag aaa agt cat 69
 Thr Arg His Lys Lys Ser His
 20

<210> 117
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 117
 Tyr Glu Cys Glu Lys Cys Gly Lys Ala Phe Asn Gln Ser Ser Asn Leu
 1 5 10 15
 Thr Arg His Lys Lys Ser His

20

<210> 118
 <211> 69
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(69)

<400> 118
 tat gag tgc aat gaa tgt ggg aag ttt ttt agc cag agc tcc agc ctc 48
 Tyr Glu Cys Asn Glu Cys Gly Lys Phe Phe Ser Gln Ser Ser Ser Leu
 1 5 10 15
 att aga cat agg aga agt cac 69
 Ile Arg His Arg Arg Ser His
 20

<210> 119
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 119
 Tyr Glu Cys Asn Glu Cys Gly Lys Phe Phe Ser Gln Ser Ser Ser Leu
 1 5 10 15
 Ile Arg His Arg Arg Ser His
 20

<210> 120
 <211> 69
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(69)

<400> 120
 tat gag tgt cac gat tgc gga aag tcc ttt agg cag agc acc cac ctc 48
 Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
 1 5 10 15
 act cag cac cgg agg atc cac 69
 Thr Gln His Arg Arg Ile His
 20

<210> 121
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 121
 Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
 1 5 10 15

Thr Gln His Arg Arg Ile His
20

<210> 122
<211> 69
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(69)

<400> 122
tat gag tgt cac gat tgc gga aag tcc ttt agg cag agc acc cac ctc 48
Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
1 5 10 15

act cgg cac cgg agg atc cac 69
Thr Arg His Arg Arg Ile His
20

<210> 123
<211> 23
<212> PRT
<213> Homo sapiens

<400> 123
Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
1 5 10 15
Thr Arg His Arg Arg Ile His
20

<210> 124
<211> 69
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(69)

<400> 124
cac aag tgc ctt gaa tgt ggg aaa tgc ttc agt cag aac acc cat ctg 48
His Lys Cys Leu Glu Cys Gly Lys Cys Phe Ser Gln Asn Thr His Leu
1 5 10 15

act cgc cac caa cgc acc cac 69
Thr Arg His Gln Arg Thr His
20

<210> 125
<211> 23
<212> PRT
<213> Homo sapiens

<400> 125
His Lys Cys Leu Glu Cys Gly Lys Cys Phe Ser Gln Asn Thr His Leu

1 5 10 15
 Thr Arg His Gln Arg Thr His
 20

<210> 126
 <211> 75
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(75)

<400> 126
 tac cac tgt gac tgg gac ggc tgt gga tgg aaa ttc gcc cgc tca gat 48
 Tyr His Cys Asp Trp Asp Gly Cys Gly Trp Lys Phe Ala Arg Ser Asp
 1 5 10 15

gaa ctg acc agg cac tac cgt aaa cac 75
 Glu Leu Thr Arg His Tyr Arg Lys His
 20 25

<210> 127
 <211> 25
 <212> PRT
 <213> Homo sapiens

<400> 127
 Tyr His Cys Asp Trp Asp Gly Cys Gly Trp Lys Phe Ala Arg Ser Asp
 1 5 10 15
 Glu Leu Thr Arg His Tyr Arg Lys His
 20 25

<210> 128
 <211> 75
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(75)

<400> 128
 tac aga tgc tca tgg gaa ggg tgt gag tgg cgt ttt gca aga agt gat 48
 Tyr Arg Cys Ser Trp Glu Gly Cys Glu Trp Arg Phe Ala Arg Ser Asp
 1 5 10 15

gag tta acc agg cac ttc cga aag cac 75
 Glu Leu Thr Arg His Phe Arg Lys His
 20 25

<210> 129
 <211> 25
 <212> PRT
 <213> Homo sapiens

<400> 129

Tyr	Arg	Cys	Ser	Trp	Glu	Gly	Cys	Glu	Trp	Arg	Phe	Ala	Arg	Ser	Asp
1				5					10					15	
Glu	Leu	Thr	Arg	His	Phe	Arg	Lys	His							
			20					25							

<210> 130
 <211> 75
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(75)

ttc	agc	tgt	agc	tgg	aaa	ggt	tgt	gaa	agg	agg	ttt	gcc	cgt	tct	gat	48
Phe	Ser	Cys	Ser	Trp	Lys	Gly	Cys	Glu	Arg	Arg	Phe	Ala	Arg	Ser	Asp	
1				5					10					15		

gaa	ctg	tcc	aga	cac	agg	cga	acc	cac								75
Glu	Leu	Ser	Arg	His	Arg	Arg	Thr	His								
			20					25								

<210> 131
 <211> 25
 <212> PRT
 <213> Homo sapiens

Phe	Ser	Cys	Ser	Trp	Lys	Gly	Cys	Glu	Arg	Arg	Phe	Ala	Arg	Ser	Asp
1				5					10					15	
Glu	Leu	Ser	Arg	His	Arg	Arg	Thr	His							
			20					25							

<210> 132
 <211> 75
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(75)

ttc	gcc	tgc	agc	tgg	cag	gac	tgc	aac	aag	aag	ttc	gcg	cgc	tcc	gac	48
Phe	Ala	Cys	Ser	Trp	Gln	Asp	Cys	Asn	Lys	Lys	Phe	Ala	Arg	Ser	Asp	
1				5					10					15		

gag	ctg	gcg	cgg	cac	tac	cgc	aca	cac								75
Glu	Leu	Ala	Arg	His	Tyr	Arg	Thr	His								
			20					25								

<210> 133
 <211> 25
 <212> PRT
 <213> Homo sapiens

<400> 133

Phe	Ala	Cys	Ser	Trp	Gln	Asp	Cys	Asn	Lys	Lys	Phe	Ala	Arg	Ser	Asp
1				5					10					15	
Glu	Leu	Ala	Arg	His	Tyr	Arg	Thr	His							
			20					25							

<210> 134

<211> 75

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(75)

<400> 134

tac	cac	tgc	aac	tgg	gac	ggc	tgc	ggc	tgg	aag	ttt	gcg	cgc	tca	gac	48
Tyr	His	Cys	Asn	Trp	Asp	Gly	Cys	Gly	Trp	Lys	Phe	Ala	Arg	Ser	Asp	
1				5					10					15		

gag	ctc	acg	cgc	cac	tac	cga	aag	cac	75
Glu	Leu	Thr	Arg	His	Tyr	Arg	Lys	His	
			20					25	

<210> 135

<211> 25

<212> PRT

<213> Homo sapiens

<400> 135

Tyr	His	Cys	Asn	Trp	Asp	Gly	Cys	Gly	Trp	Lys	Phe	Ala	Arg	Ser	Asp
1				5					10					15	
Glu	Leu	Thr	Arg	His	Tyr	Arg	Lys	His							
			20					25							

<210> 136

<211> 72

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(72)

<400> 136

ttc	ctc	tgt	cag	tat	tgt	gca	cag	aga	ttt	ggg	cga	aag	gat	cac	ctg	48
Phe	Leu	Cys	Gln	Tyr	Cys	Ala	Gln	Arg	Phe	Gly	Arg	Lys	Asp	His	Leu	
1				5					10					15		

act	cga	cat	atg	aag	aag	agt	cac	72
Thr	Arg	His	Met	Lys	Lys	Ser	His	
			20					

<210> 137

<211> 24

<212> PRT

<213> Homo sapiens

<400> 137

Phe Leu Cys Gln Tyr Cys Ala Gln Arg Phe Gly Arg Lys Asp His Leu
 1 5 10 15
 Thr Arg His Met Lys Lys Ser His
 20

<210> 138

<211> 78

<212> DNA

<213> Artificial Sequence

<220>

<223> primer for PCR

<400> 138

tgctgaatct gcatgcgtaa cttcagtcgt agtgaccacc ttaccacca catccggacc 60
 cacactggcc agaaaccc 78

<210> 139

<211> 81

<212> DNA

<213> Artificial Sequence

<220>

<223> primer for PCR

<400> 139

ggtggcggcc gttacttact tagagctcga cgtcttactt acttagcggc cgcactagta 60
 gatctgaatt cattcaccgg t 81

<210> 140

<211> 69

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(69)

<400> 140

ttc cag tgt aaa act tgt cag cga aag ttc tcc cgg tcc gac cac ctg 48
 Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
 1 5 10 15

aag acc cac acc agg act cat 69
 Lys Thr His Thr Arg Thr His
 20

<210> 141

<211> 23

<212> PRT

<213> Homo sapiens

<400> 141

Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
 1 5 10 15

Lys Thr His Thr Arg Thr His
20

<210> 142
<211> 69
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(69)

<400> 142
ttt gcc tgc gag gtc tgc ggt gtt cga ttc acc agg aac gac aag ctg 48
Phe Ala Cys Glu Val Cys Gly Val Arg Phe Thr Arg Asn Asp Lys Leu
1 5 10 15

aag atc cac atg cgg aag cac 69
Lys Ile His Met Arg Lys His
20

<210> 143
<211> 23
<212> PRT
<213> Homo sapiens

<400> 143
Phe Ala Cys Glu Val Cys Gly Val Arg Phe Thr Arg Asn Asp Lys Leu
1 5 10 15
Lys Ile His Met Arg Lys His
20

<210> 144
<211> 75
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(75)

<400> 144
tat gta tgc gat gta gag gga tgt acg tgg aaa ttt gcc cgc tca gat 48
Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys Phe Ala Arg Ser Asp
1 5 10 15

aag ctc aac aga cac aag aaa agg cac 75
Lys Leu Asn Arg His Lys Lys Arg His
20 25

<210> 145
<211> 25
<212> PRT
<213> Homo sapiens

<400> 145
Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys Phe Ala Arg Ser Asp

1		5		10		15
Lys	Leu	Asn	Arg	His	Lys	Lys
					Arg	His
		20			25	

<210> 146
 <211> 69
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(69)

<400> 146																	
tat	att	tgc	aga	aag	tgt	gga	cgg	ggc	ttt	agt	cgg	aag	tcc	aac	ctt		48
Tyr	Ile	Cys	Arg	Lys	Cys	Gly	Arg	Gly	Phe	Ser	Arg	Lys	Ser	Asn	Leu		
1				5					10					15			

atc	aga	cat	cag	agg	aca	cac											69
Ile	Arg	His	Gln	Arg	Thr	His											
			20														

<210> 147
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 147																	
Tyr	Ile	Cys	Arg	Lys	Cys	Gly	Arg	Gly	Phe	Ser	Arg	Lys	Ser	Asn	Leu		
1				5					10					15			
Ile	Arg	His	Gln	Arg	Thr	His											
			20														

<210> 148
 <211> 69
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(69)

<400> 148																	
tat	cta	tgt	agt	gag	tgt	gac	aaa	tgc	ttc	agt	aga	agt	aca	aac	ctc		48
Tyr	Leu	Cys	Ser	Glu	Cys	Asp	Lys	Cys	Phe	Ser	Arg	Ser	Thr	Asn	Leu		
1				5					10					15			

ata	agg	cat	cga	aga	act	cac											69
Ile	Arg	His	Arg	Arg	Thr	His											
			20														

<210> 149
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 149

Tyr Leu Cys Ser Glu Cys Asp Lys Cys Phe Ser Arg Ser Thr Asn Leu
 1 5 10 15
 Ile Arg His Arg Arg Thr His
 20

<210> 150
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> purified polypeptide

<221> VARIANT
 <222> 1, 13
 <223> Xaa = Phe or Tyr

<221> VARIANT
 <222> 2, 4-8, 10-12, 14, 16, 20, 23-27
 <223> Xaa = any amino acid

<221> VARIANT
 <222> 19
 <223> Xaa = hydrophobic residue

<400> 150
 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Gln Xaa
 1 5 10 15
 Ala His Xaa Xaa Arg His Xaa Xaa Xaa Xaa Xaa His
 20 25

<210> 151
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
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<221> VARIANT
 <222> 1, 13
 <223> Xaa = Phe or Tyr

<221> VARIANT
 <222> 2, 4-8, 10-12, 14, 16, 20, 23-27
 <223> Xaa = any amino acid

<221> VARIANT
 <222> 19
 <223> Xaa = hydrophobic residue

<400> 151
 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Gln Xaa
 1 5 10 15
 Phe Asn Xaa Xaa Arg His Xaa Xaa Xaa Xaa Xaa His
 20 25

<210> 152
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
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<221> VARIANT
 <222> 1, 13
 <223> Xaa = Phe or Tyr

<221> VARIANT
 <222> 2, 4-8, 10-12, 14, 16, 20, 23-27
 <223> Xaa = any amino acid

<221> VARIANT
 <222> 19
 <223> Xaa = hydrophobic residue

<400> 152
 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Gln Xaa
 1 5 10 15
 Ser His Xaa Xaa Thr His Xaa Xaa Xaa Xaa Xaa His
 20 25

<210> 153
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> purified polypeptide

<221> VARIANT
 <222> 1, 13
 <223> Xaa = Phe or Tyr

<221> VARIANT
 <222> 2, 4-8, 10-12, 14, 16, 20, 23-27
 <223> Xaa = any amino acid

<221> VARIANT
 <222> 19
 <223> Xaa = hydrophobic residue

<400> 153
 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Gln Xaa
 1 5 10 15
 Ser His Xaa Xaa Val His Xaa Xaa Xaa Xaa Xaa His
 20 25

<210> 154
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> purified polypeptide

<221> VARIANT
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 <223> Xaa = Phe or Tyr

<221> VARIANT
 <222> 2, 4-8, 10-12, 14, 16, 20, 23-27
 <223> Xaa = any amino acid

<221> VARIANT
 <222> 19
 <223> Xaa = hydrophobic residue

<400> 154
 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Gln Xaa
 1 5 10 15
 Ser Asn Xaa Xaa Ile His Xaa Xaa Xaa Xaa Xaa His
 20 25

<210> 155
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> purified polypeptide

<221> VARIANT
 <222> 1, 13
 <223> Xaa = Phe or Tyr

<221> VARIANT
 <222> 2, 4-8, 10-12, 14, 16, 20, 23-27
 <223> Xaa = any amino acid

<221> VARIANT
 <222> 19
 <223> Xaa = hydrophobic residue

<400> 155
 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Gln Xaa
 1 5 10 15
 Ser Asn Xaa Xaa Arg His Xaa Xaa Xaa Xaa Xaa His
 20 25

<210> 156
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> purified polypeptide

<221> VARIANT
 <222> 1, 13

<223> Xaa = Phe or Tyr

<221> VARIANT

<222> 2, 4-8, 10-12, 14, 16, 20, 23-27

<223> Xaa = any amino acid

<221> VARIANT

<222> 19

<223> Xaa = hydrophobic residue

<400> 156

Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Gln Xaa

1

5

10

15

Thr His Xaa Xaa Gln His Xaa Xaa Xaa Xaa Xaa His

20

25

<210> 157

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> purified polypeptide

<221> VARIANT

<222> 2-6, 8-10, 12, 14, 18, 21-25

<223> Xaa = any amino acid

<221> VARIANT

<222> 11

<223> Xaa = Phe or Tyr

<221> VARIANT

<222> 17

<223> Xaa = hydrophobic residue

<400> 157

Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Gln Xaa Thr His

1

5

10

15

Xaa Xaa Arg His Xaa Xaa Xaa Xaa Xaa His

20

25

<210> 158

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> purified polypeptide

<221> VARIANT

<222> 1, 13

<223> Xaa = Phe or Tyr

<221> VARIANT

<222> 2, 4-8, 10-12, 14, 16, 20, 23-27

<223> Xaa = any amino acid

<221> VARIANT

<222> 19

<223> Xaa = hydrophobic residue

<400> 158

Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Arg	Xaa
1				5				10						15	
Asp	Lys	Xaa	Xaa	Ile	His	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	His			
			20					25							

<210> 159

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> purified polypeptide

<221> VARIANT

<222> 1, 13

<223> Xaa = Phe or Tyr

<221> VARIANT

<222> 2, 4-8, 10-12, 14, 16, 20, 23-27

<223> Xaa = any amino acid

<221> VARIANT

<222> 19

<223> Xaa = hydrophobic residue

<400> 159

Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Arg	Xaa
1				5				10						15	
Ser	Asn	Xaa	Xaa	Arg	His	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	His			
			20					25							

<210> 160

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> purified polypeptide

<221> VARIANT

<222> 1, 13

<223> Xaa = Phe or Tyr

<221> VARIANT

<222> 2, 4-8, 10-12, 14, 16, 20, 23-27

<223> Xaa = any amino acid

<221> VARIANT

<222> 19

<223> Xaa = hydrophobic residue

<400> 160

Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Arg	Xaa
1				5					10					15	
Thr	Asn	Xaa	Xaa	Arg	His	Xaa	Xaa	Xaa	Xaa	Xaa	His				
			20					25							

<210> 161

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> purified polypeptide

<221> VARIANT

<222> 1, 13

<223> Xaa = Phe or Tyr

<221> VARIANT

<222> 2, 4-8, 10-12, 14, 16, 20, 23-27

<223> Xaa = any amino acid

<221> VARIANT

<222> 19

<223> Xaa = hydrophobic residue

<400> 161

Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Gln	Xaa
1				5					10					15	
Gly	Asn	Xaa	Xaa	Arg	His	Xaa	Xaa	Xaa	Xaa	Xaa	His				
			20					25							

<210> 162

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> purified polypeptide

<221> VARIANT

<222> 1, 13

<223> Xaa = Phe or Tyr

<221> VARIANT

<222> 2, 4-8, 10-12, 14, 16, 20, 23-27

<223> Xaa = any amino acid

<221> VARIANT

<222> 19

<223> Xaa = hydrophobic residue

<400> 162

Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Arg	Xaa
1				5					10					15	
Asp	Glu	Xaa	Xaa	Arg	His	Xaa	Xaa	Xaa	Xaa	Xaa	His				
			20					25							

<210> 163
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> purified polypeptide

<221> VARIANT
 <222> 1, 13
 <223> Xaa = Phe or Tyr

<221> VARIANT
 <222> 2, 4-8, 10-12, 14, 16, 20, 23-27
 <223> Xaa = any amino acid

<221> VARIANT
 <222> 19
 <223> Xaa = hydrophobic residue

<400> 163
 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Arg Xaa
 1 5 10 15
 Asp His Xaa Xaa Arg His Xaa Xaa Xaa Xaa Xaa His
 20 25

<210> 164
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> purified polypeptide

<221> VARIANT
 <222> 1, 13
 <223> Xaa = Phe or Tyr

<221> VARIANT
 <222> 2, 4-8, 10-12, 14, 16, 20, 23-27
 <223> Xaa = any amino acid

<221> VARIANT
 <222> 19
 <223> Xaa = hydrophobic residue

<400> 164
 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Arg Xaa
 1 5 10 15
 Asp His Xaa Xaa Thr His Xaa Xaa Xaa Xaa Xaa His
 20 25

<210> 165
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>

<223> purified polypeptide

<221> VARIANT

<222> 1, 13

<223> Xaa = Phe or Tyr

<221> VARIANT

<222> 2, 4-8, 10-12, 14, 16, 20, 23-27

<223> Xaa = any amino acid

<221> VARIANT

<222> 19

<223> Xaa = hydrophobic residue

<400> 165

Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Arg	Xaa
1			5					10						15	
Asp	Lys	Xaa	Xaa	Arg	His	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	His			
			20					25							

<210> 166

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> purified polypeptide

<221> VARIANT

<222> 1, 13

<223> Xaa = Phe or Tyr

<221> VARIANT

<222> 2, 4-8, 10-12, 14, 16, 20, 23-27

<223> Xaa = any amino acid

<221> VARIANT

<222> 19

<223> Xaa = hydrophobic residue

<400> 166

Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Arg	Xaa
1			5					10						15	
Ser	His	Xaa	Xaa	Arg	His	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	His			
			20					25							

<210> 167

<211> 78

<212> DNA

<213> Artificial Sequence

<220>

<223> plasmid sequence

<221> CDS

<222> (1) ... (39)

<400> 167

gat ccg cgg gaa ttc aga tct act agt gcg gcc gct aag taagtaagac 49
Asp Pro Arg Glu Phe Arg Ser Thr Ser Ala Ala Ala Lys
1 5 10

gtcgagctcg ccatcgcggt ggaagcttt 78

<210> 168

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> plasmid sequence

<400> 168

Asp Pro Arg Glu Phe Arg Ser Thr Ser Ala Ala Ala Lys
1 5 10

<210> 169

<211> 102

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

$\langle 222 \rangle$ (1) ... (102)

<400> 169

acc ggg cag aaa ccg tac aaa tgt aag caa tgt ggg aaa gct ttt gga 48
Thr Gly Gln Lys Pro Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly
1 5 10 15

tgt ccc tca aac ctt cga agg cat gga agg act cac acc ggc gag aaa 96
Cys Pro Ser Asn Leu Arg Arg His Gly Arg Thr His Thr Gly Glu Lys
20 25 30

ccg	cgg	102
Pro	Arg	

<210> 170

<211> 34

<212> PRT

<213> Homo sapiens

<400> 170

Thr	Gly	Gln	Lys	Pro	Tyr	Lys	Cys	Lys	Gln	Cys	Gly	Lys	Ala	Phe	Gly
1				5					10					15	
Cys	Pro	Ser	Asn	Leu	Arg	Arg	His	Gly	Arg	Thr	His	Thr	Gly	Glu	Lys
			20					25					30		

Pro Arg

<210> 171

<211> 102

<212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(102)

<400> 171
 acc ggg gag aag cca tac aag tgt aag gag tgt ggg aaa gcc ttc aac 48
 Thr Gly Glu Lys Pro Tyr Lys Cys Lys Glu Cys Gly Lys Ala Phe Asn
 1 5 10 15
 cac agc tcc aac ttc aat aaa cac cac aga atc cac acc ggc gaa aag 96
 His Ser Ser Asn Phe Asn Lys His His Arg Ile His Thr Gly Glu Lys
 20 25 30
 ccg cgg 102
 Pro Arg

<210> 172
 <211> 34
 <212> PRT
 <213> Homo sapiens

<400> 172
 Thr Gly Glu Lys Pro Tyr Lys Cys Lys Glu Cys Gly Lys Ala Phe Asn
 1 5 10 15
 His Ser Ser Asn Phe Asn Lys His His Arg Ile His Thr Gly Glu Lys
 20 25 30
 Pro Arg

<210> 173
 <211> 102
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(102)

<400> 173
 acc ggg gag agg cca ttt gaa tgt aag gaa tgt ggg aaa gcc ttt agt 48
 Thr Gly Glu Arg Pro Phe Glu Cys Lys Glu Cys Gly Lys Ala Phe Ser
 1 5 10 15
 agt ggt tca aac ttc act cga cat cag aga att cac acc ggt gaa aag 96
 Ser Gly Ser Asn Phe Thr Arg His Gln Arg Ile His Thr Gly Glu Lys
 20 25 30
 ccg cgg 102
 Pro Arg

<210> 174
 <211> 34
 <212> PRT
 <213> Homo sapiens

<400> 174

Thr Gly Glu Arg Pro Phe Glu Cys Lys Glu Cys Gly Lys Ala Phe Ser
 1 5 10 15
 Ser Gly Ser Asn Phe Thr Arg His Gln Arg Ile His Thr Gly Glu Lys
 20 25 30
 Pro Arg

<210> 175

<211> 108

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(108)

<400> 175

acc ggg cag aag cca tac gta tgc gat gta gag gga tgt acg tgg aaa 48
 Thr Gly Gln Lys Pro Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys
 1 5 10 15

ttt gcc cgc tca gat gag ctc aac aga cac aag aaa agg cac acc ggc 96
 Phe Ala Arg Ser Asp Glu Leu Asn Arg His Lys Lys Arg His Thr Gly
 20 25 30

gaa aga ccg cgg 108
 Glu Arg Pro Arg
 35

<210> 176

<211> 36

<212> PRT

<213> Homo sapiens

<400> 176

Thr Gly Gln Lys Pro Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys
 1 5 10 15
 Phe Ala Arg Ser Asp Glu Leu Asn Arg His Lys Lys Arg His Thr Gly
 20 25 30
 Glu Arg Pro Arg
 35

<210> 177

<211> 102

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(102)

<400> 177

acc ggg gag aga cct tac gag tgt aat gaa tgc ggg aaa gct ttt gcc 48
 Thr Gly Glu Arg Pro Tyr Glu Cys Asn Glu Cys Gly Lys Ala Phe Ala
 1 5 10 15

caa aat tca act ctc aga gta cac cag aga att cac acc ggc gaa aag 96

Gln Asn Ser Thr Leu Arg Val His Gln Arg Ile His Thr Gly Glu Lys
 20 25 30

ccg cgg
 Pro Arg

102

<210> 178
 <211> 34
 <212> PRT
 <213> Homo sapiens

<400> 178
 Thr Gly Glu Arg Pro Tyr Glu Cys Asn Glu Cys Gly Lys Ala Phe Ala
 1 5 10 15
 Gln Asn Ser Thr Leu Arg Val His Gln Arg Ile His Thr Gly Glu Lys
 20 25 30
 Pro Arg

<210> 179
 <211> 102
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(102)

<400> 179
 acc ggg gag agg cct tat gag tgt aat tac tgt gga aaa acc ttt agt
 Thr Gly Glu Arg Pro Tyr Glu Cys Asn Tyr Cys Gly Lys Thr Phe Ser
 1 5 10 15

48

gtg agc tca acc ctt att aga cat cag aga atc cac acc ggc gag aga
 Val Ser Ser Thr Leu Ile Arg His Gln Arg Ile His Thr Gly Glu Arg
 20 25 30

96

ccg cgg
 Pro Arg

102

<210> 180
 <211> 34
 <212> PRT
 <213> Homo sapiens

<400> 180
 Thr Gly Glu Arg Pro Tyr Glu Cys Asn Tyr Cys Gly Lys Thr Phe Ser
 1 5 10 15
 Val Ser Ser Thr Leu Ile Arg His Gln Arg Ile His Thr Gly Glu Arg
 20 25 30
 Pro Arg

B3
 concv